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email: r.chepyshko@chnu.edu.ua

ORCID ID: https://orcid.org/0009-0001-6174-3284

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Roman Chepyshko, PhD, Assistant Professor, Chernivtsi National University

SECOND LANGUAGE ACQUISITION AS AN INTERDISCIPLINARY RESEARCH PLATFORM

Second Language Acquisition (SLA) is a dynamic interdisciplinary field of inquiry that bridges linguistics, psychology, education, neuroscience, and related domains in studying how individuals acquire additional languages. Despite its broad implications, SLA remains relatively unfamiliar to many scholars interested in language, communication, and education. This paper briefly synthesizes key theoretical and empirical advances in SLA, emphasizing its significance within applied linguistics and across a spectrum of scholarly and professional domains. Early models, rooted in structuralism and behaviorism, cast language learning as rote habit formation driven by stimulus and response. Revision of these views eventually led to the cognitive paradigm shift and reframed learners as active agents constructing internal grammar through mental processes. The concept of interlanguage marked a turning point, positing that learners develop intermediate linguistic systems shaped by input, cognition, and individual variation. Current research explores the nuanced interplay between implicit and explicit learning, the role of comprehensible input, as well as the impact of interaction and corrective feedback in language development. Additionally, affective factors such as motivation, anxiety, and self-confidence are now considered integral to acquisition. In this expanded framework, SLA offers practical implications for language education and insights into the architecture of the mind, making it an essential interdisciplinary platform for philologists, educators, cognitive scientists, and policymakers alike.

Keywords: second language acquisition, interdisciplinary research, language and cognition, applied linguistics, multilingualism and education.

Чепишко Роман Миколайович,

доктор філософії, асистент кафедри лінгвістики та перекладу, Чернівецький національний університет імені Юрія Федьковича

ВИВЧЕННЯ ДРУГОЇ МОВИ ЯК МІЖДИСЦИПЛІНАРНА ДОСЛІДНИЦЬКА ПЛАТФОРМА

Вивчення другої мови (Second Language Acquisition, SLA) це динамічна міждисциплінарна галузь досліджень, яка поєднує лінгвістику, психологію, освіту, та інші суміжні науки у вивченні того, як люди опановують іноземні мови. Незважаючи на свої значимі здобутки, SLA залишається відносно незнайомою академічною дисципліною для багатьох науковців, які цікавляться мовою, комунікацією та освітою. Ця стаття розглядає ключові теоретичні та емпіричні досягнення в галузі SLA, підкреслюючи іхні значення в прикладній лінгвістиці та в широкому спектрі наукових і професійних сфер. Ранні моделі, засновані на структуралізмі та біхевіоризмі, розглядали вивчення мови як набуття мовленнєвих звичок, що формуються під впливом стимулів і реакцій. Перегляд цих поглядів зрештою призвів до зміни парадигми і переосмислення людей котрі вивчають мову як активних агентів, що конструюють внутрішню граматику мови. Концепція міжмовності стала поворотним моментом, стверджуючи, що учні розвивають проміжні мовні системи, сформовані під впливом мовних вхідних даних (language input), низки когнітивних процесів та індивідуальних варіацій. Сучасні SLA дослідження вивчають взаємозв'язок між імпліцитним та експліцитним навчанням, роль мовних вхідних даних (сотргенепзівів іприt), а також вплив мовної взаємодії (interaction) та коригувальних відгуків (сотгестіче feedback) на мовний розвиток. Крім того, афективні фактори, такі як мотивація, тривожність і впевненість у собі, тепер вважаються невід'ємною складовою засвоєння мови. У цьому розширеному контексті SLA має практичне значення для мовної освіти та розуміння архітектури людського розуму, що робить її важливою міждисциплінарною платформою для філологів, освітян, психологів та інших науковців.

Ключові слова: вивчення другої мови, міждисциплінарні дослідження, мова і пізнання, прикладна лінгвістика, багатомовність і освіта.

I. INTRODUCTION

Learning a second language is a challenging task familiar to most, if not all, of us. We study new languages in classrooms as part of formal education or acquire them informally through travel, immersion, and interaction with native speakers. Yet, while some learners seem to grasp a new language effortlessly, others struggle and ultimately fail in this endeavor. What makes second language learning so variable? How does it differ from mastering other subjects like mathematics or geography? And how can we make language learning more efficient and effective? These questions, and many others, have fueled vigorous debate in research and academia.

Surprisingly, despite its broad implications, Second Language Acquisition (SLA) as a field of inquiry remains relatively unfamiliar to many scholars interested in language, communication, and education. This paper provides a brief introduction to the field, serving as a starting point for philologists, language educators, translators, psychologists, anthropologists, sociologists, and other professionals working at the crossroads of language and cognition.

SLA is inherently interdisciplinary, built upon theories and constructs from multiple academic domains. Over time, it has assimilated, refined, and often reinterpreted these ideas, forging its own theoretical landscape. This interdisciplinarity presents both an intellectual challenge and a unique advantage: researchers must integrate knowledge from diverse disciplines, but this very breadth allows for a rich exchange of insights from fields as varied as, among others, psychology, linguistics, and sociology. SLA also occupies an intriguing position between applied and theoretical science. On the one hand, it seeks practical solutions: enhancing

language instruction, improving pedagogical methods, and addressing learning barriers. On the other, it probes deeper cognitive questions about how humans acquire, process, and use language, shedding light on the broader mechanisms of learning itself. In doing so, SLA not only informs language education but also contributes to our fundamental understanding of the human mind.

The primary aim of this paper is to foster cross-disciplinary collaboration by equipping professionals from related fields with the essential knowledge to engage meaningfully in these exchanges. In the following sections, I first outline the historical and intellectual context that set the stage for SLA's emergence as an independent academic discipline. I then examine its early foundational work and introduce Stephen Krashen's five hypotheses (Krashen, 1982), which offer a conceptual framework for understanding major trends in contemporary SLA research.

II. RESULTS AND DISCUSSION

Historical and Intellectual Context for SLA's Emergence

While crosslinguistic communication, foreign language learning, and literary translation have been integral to human civilization for centuries, the scientific study of second language acquisition is a distinctly 20th-century development.

The first half of the 20th century was marked by a resolutely scientific approach to language and learning. In linguistics, *structuralism* dominated, with scholars meticulously documenting linguistic patterns (Cassirer,1945). Psychology, meanwhile, was shaped by *behaviorism*, which focused exclusively on observable behavior while avoiding speculation about mental processes. The mind was treated as a "black box": its inner workings were considered beyond the reach of scientific inquiry. In this framework, learning was seen as a process of *habit formation*, with researchers systematically studying how *stimuli* and *responses* shaped behavior. From this perspective, language learning was considered a straightforward process: learners imitated linguistic stimuli, received feedback, and gradually reinforced correct language patterns through repetition (Skinner, 1957). Verbal behavior, rather than deep cognitive processing, was seen as the driving force behind acquiring a language.

The failure of structuralism and behaviorism to fully account for language learning set the stage for the cognitive revolution (Miller, 1959). At the heart of this paradigm shift was the recognition that language is a unique human capacity that cannot be explained through simple stimulus-response mechanisms. Unlike other learned behaviors, language is acquired universally, without regard for reinforcement schedules or external conditioning (Chomsky, 1959). A more accurate and productive way to understand language is as a mental generative system, an innate feature of the mind/brain that enables both the comprehension and production of an infinite range of linguistic structures (Chomsky, 1957). This realization prompted researchers to reopen the so-called "black box" of the mind, aiming to uncover the cognitive mechanisms that make language acquisition possible. As a result, linguistic inquiry moved beyond surface-level descriptions of behavior, shifting its focus to the mental structures and computational rules that govern language use.

Foundational studies in SLA

The cognitive revolution of the 1950s united experimental psychologists, linguists, neuroscientists, computer scientists, anthropologists, and philosophers in a shared intellectual endeavor: cognitive science (Miller, 2003). Each discipline offered a distinct perspective on the workings of the mind—whether by constructing theoretical models, probing the biological foundations of cognition, developing computational simulations, or analyzing cognitive processes across cultures and languages. Second Language Acquisition (SLA) emerged as an integral part of this interdisciplinary landscape. While grounded in fundamental research on how the mind processes language, it also maintains a direct connection to real-world application, engaging language educators and practitioners in the study of how second languages are learned and taught.

One of the earliest strands of SLA research vividly reflects this cognitive shift and the emergence of foundational constructs in the field. Influenced by structuralism, early language education research emphasized contrastive analysis—a method that compared a learner's native language with the target language to predict areas of difficulty. The assumption was that linguistic contrasts determined learning challenges, allowing instructors to tailor their teaching strategies accordingly (Lado, 1957). This approach aligned with behaviorist principles, leading to a rigid emphasis on drill-based practice: learners were expected to replace incorrect habits with the correct structures of the new language through repetition and reinforcement.

However, the limitations of contrastive analysis soon became apparent in real-world language classrooms. Learners often had little difficulty with structures predicted to be challenging, yet they made persistent errors that the model failed to anticipate. This discrepancy suggested that second language learning was not merely a matter of overcoming structural mismatches between languages.

In his groundbreaking paper, *The Significance of Learners' Errors* (1967), Stephen Pit Corder proposed a radically different perspective. Rather than treating errors as failures, he argued that they were windows into the learner's evolving linguistic system. Far from being random mistakes, these errors were systematic, reflecting the internal rules learners were actively constructing. Instead of focusing solely on their elimination, Corder urged researchers to analyze errors as valuable data–clues that reveal the cognitive processes underlying second language acquisition.

This paradigm shift led to the concept of *interlanguage*, which redefined SLA as a dynamic and evolving process (Selinker, 1972; Tarone, 1979). Rather than simply transferring structures from their native language, learners develop an interim linguistic system that follows its own developmental trajectory. This system may progress, stagnate (a phenomenon known as fossilization), or be shaped by instruction and exposure. Researchers turned their attention to fundamental questions: Do the innate mechanisms that support first-language (L1) acquisition also apply to L2 learning? How does age influence second language acquisition? To what extent can formal instruction accelerate or reshape linguistic development? The cognitive revolution and its subsequent theoretical shifts laid the groundwork for significant advancements in SLA. Moving beyond structuralist and behaviorist models, researchers recognized language learning as an active cognitive phenomenon.

Krashen's SLA Hypotheses

Over the past several decades, research in Second Language Acquisition (SLA) has grown exponentially, deepening our understanding of how learners acquire a second language and how instructional contexts influence this process. Among the most influential theoretical contributions to the field, Stephen Krashen's five hypotheses offer a comprehensive framework for explaining the cognitive and environmental factors that shape language learning.

Acquisition-Learning Hypothesis. Acquisition-Learning Hypothesis distinguishes between two pathways to second language proficiency: acquisition and learning. Acquisition is a subconscious, intuitive process akin to first-language development, occurring through meaningful communication without explicit focus on rules. Learning, by contrast, is a conscious process involving explicit rule memorization and formal instruction, which does not necessarily lead to spontaneous fluency. Krashen argues that acquisition is the foundation of true proficiency, while learning plays a limited role in self-monitoring and error correction.

Monitor Hypothesis. Monitor Hypothesis posits that consciously learned language serves primarily as a monitor—a tool for editing and correcting speech rather than for spontaneous communication. Accordingly, fluent language production stems from acquired knowledge, while learned knowledge can only be used to fine-tune output. While the monitor can enhance accuracy in writing or careful speech, over-reliance on it can hinder fluency, making language production slow and unnatural. Effective language learners strike a balance, using the monitor to refine their output without letting it interfere with natural communication.

Natural Order Hypothesis. Natural Order Hypothesis proposes that language learners acquire grammatical structures in a predictable sequence, regardless of their native language or the type of instruction they receive. According to this hypothesis, certain linguistic elements tend to emerge earlier in the learning process, while others appear later, following an inherent order that cannot be drastically altered by explicit teaching. For example, studies have shown that English learners typically acquire the progressive -ing form before mastering the third-person singular -s or the irregular past tense. Krashen argues that this natural order is driven by the internal mechanisms of language acquisition rather than direct instruction, meaning that teaching complex structures before learners are ready for them may have little impact on their spontaneous language use.

Input Hypothesis. Input Hypothesis posits that language learners acquire a second language most effectively when they are exposed to language input that is slightly beyond their current level of proficiency, often referred to as i+1. This means that learners should be exposed to language that is just challenging enough to push them beyond their current understanding, but still comprehensible with the help of context, visuals, or prior knowledge. Krashen argues that this type of input—rich in meaning and context—promotes natural language acquisition by encouraging learners to infer grammatical rules and structures implicitly, rather than by explicitly studying them. According to the hypothesis, language is best acquired when it is understood in context, rather than memorized through isolated drills or exercises.

Affective Filter Hypothesis. The Affective Filter Hypothesis proposes that emotional and psychological factors such as anxiety, motivation, and self-confidence can facilitate or impede second language acquisition. According to Krashen, when learners are relaxed, motivated, and engaged, the "affective filter" is low, allowing linguistic input to flow freely into the brain's language acquisition system. Conversely, when learners experience stress, fear, or low self-esteem, the affective filter rises, blocking or distorting input and making language learning less efficient. This hypothesis explains why some learners thrive in immersive, low-pressure environments while others struggle in high-stakes, anxiety-inducing settings. Krashen's theory underscores the importance of creating supportive, low anxiety learning conditions, suggesting that effective language instruction should emphasize meaningful communication over rigid error correction and rote memorization.

Summary. Stephen Krashen's body of work on second language acquisition comprises five interrelated hypotheses that together form a comprehensive framework for understanding how language is learned. At the heart of this framework, the Acquisition-Learning Hypothesis distinguishes the subconscious, intuitive process of acquiring language—much like first language development—from the conscious, rule-based learning process. Complementing this, the Monitor Hypothesis posits that consciously learned knowledge acts as a corrective mechanism, applied only under specific conditions. The Natural Order Hypothesis observes that learners acquire grammatical structures in a predictable sequence, largely impervious to formal instruction (see also Pienemann, 1998;2005, Pienemann & Lenzing, 2025). In contrast, the Input Hypothesis argues that optimal language development occurs when learners are exposed to language input that is just slightly beyond their current competence (i+1), facilitating implicit rule inference. Finally, the Affective Filter Hypothesis underscores the pivotal role of emotional factors, asserting that low-anxiety, supportive environments enhance language acquisition by allowing input to flow unimpeded. Together, these hypotheses illuminate the cognitive and environmental foundations of language learning, offering vital insights for both research and pedagogy in the field.

Further development in SLA

Stephen Krashen's hypotheses have been foundational to the field of SLA, significantly shaping how researchers and educators understand the language learning process. Over time, the ideas have been expanded and refined, particularly as new research has illuminated the complexities of language acquisition. While Krashen's Acquisition-Learning Hypothesis has played a crucial role in distinguishing between implicit and explicit processes, subsequent research has revealed that the interaction between these processes is more intricate than initially proposed. Studies on implicit learning (Rebuschat, 2015; Rebuschat & Williams, 2012) and the Noticing Hypothesis (Schmidt, 1992, 2001, 2012) have deepened our understanding of how attention and awareness influence language processing (Robinson, 1995). These advancements suggest that language acquisition is not a simple dichotomy between acquisition and learning but rather a dynamic interplay of various cognitive mechanisms (Truscott, 1998). The Monitor Hypothesis, which suggests that conscious knowledge primarily serves as a tool for monitoring and correcting language use, has also been extended by more recent work. New perspectives emphasize the interaction between conscious and unconscious processes. This evolving view underscores a broader understanding of the cognitive processes involved in language acquisition, highlighting the nuanced ways learners draw upon implicit and explicit knowledge (DeKeyser, 2017; Ellis, 2015). The Input Hypothesis asserts that comprehensible input is essential for language learning and has seen considerable expansion in literature. Researchers have identified conditions under which input is most effective, such as input processing and processing instructions (VanPatten, 1996) and input enhancement (Sharwood Smith, 1993), which have helped clarify how learners acquire language in real-world contexts. Moreover, the role of interaction (Long, 1981), corrective feedback, and output (Lyster & Ranta, 1997; Swain & Lapkin, 1995) in SLA has gained significant attention, with studies demonstrating that learners benefit from opportunities to engage in meaningful communication, modify their language use, and receive feedback (Gass & Mackey, 2007). These refinements reflect a more nuanced understanding of how language acquisition unfolds, underscoring the importance of not only input but also the active involvement of learners in communicative processes. Finally, Krashen's Affective Filter Hypothesis, which proposes that emotional and psychological factors like motivation, anxiety, and self-confidence can either facilitate or hinder second language acquisition, has sparked further

exploration and refinement in subsequent research. While Krashen initially posited that a "low affective filter" promotes optimal language learning by allowing input to flow freely into the language acquisition system, later studies have expanded on this idea by considering a broader range of emotional and social factors that influence learning. Researchers have examined the ways in which learner motivation, cultural identity, and classroom environment interact to shape language acquisition, highlighting the importance of creating supportive, low-anxiety contexts for learning (Dörnyei, 1990; Dörnyei & Malderez, 1997). Refinements to the hypothesis also involve a more nuanced understanding of individual differences. For example, it has been suggested that the nature of the affective filter is not uniform across all learners and may vary based on personality, prior language experience, and the social dynamics of the learning environment. In addition, studies have explored the role of "self-regulation" in language learning, emphasizing how learners' emotional states and their ability to manage their feelings and stress can influence their language performance.

III. CONCLUSION

Second Language Acquisition (SLA) is a multifaceted and evolving field that offers valuable insights into the cognitive, social, and emotional dimensions of language learning. Beyond its significant role in language education, SLA connects with various academic disciplines, including linguistics, psychology, sociology, and philology, each benefiting from its interdisciplinary nature. The study of SLA not only informs how languages are learned and processed but also contributes to a broader understanding of human cognition, behavior, and social interaction. In psychology, SLA provides a unique perspective on how cognitive mechanisms support language learning. Psychologists explore the mental processes involved in acquiring a new language, such as memory, attention, and problem-solving. SLA research helps to explain how learners process linguistic input, how errors reflect cognitive strategies, and how emotional factors such as motivation, anxiety, and self-regulation influence language acquisition. This understanding contributes to the broader field of cognitive science, shedding light on how the brain adapts to new challenges and how cognitive resources are mobilized for language learning. Sociology, too, finds SLA to be a valuable lens for understanding the social dimensions of language. Language is inherently social, and social contexts and interactions shape the ways in which learners acquire a second language. SLA highlights the importance of meaningful exposure to language through social communication, which can be influenced by factors such as group identity, social networks, and cultural immersion. Sociologists are particularly interested in how language learning intersects with issues of power, identity, and integration, as well as how social structures impact the opportunities and barriers to acquiring a new language. The study of SLA thus provides insight into the broader social dynamics that influence language use and acquisition. For philologists, the relevance of SLA lies in its ability to offer a deeper understanding of the cognitive and social processes involved in language use. While philology traditionally focuses on language's historical and structural aspects, SLA extends this study by exploring how individuals learn and produce language in real-world contexts. This perspective enriches the analysis of modern and historical languages, offering valuable insights into language change, variation, and the cognitive processes underlying linguistic development. SLA bridges the gap between theoretical linguistics and practical language use, providing a more complete picture of how languages evolve and are maintained in living communities. Moreover, SLA is critical to improving pedagogical practices in language education. Understanding how learners acquire language, both implicitly and explicitly, enables educators to create more effective teaching methods. Research in SLA has led to a greater appreciation for the importance of context, motivation, and emotional factors in the classroom. Teachers can use this knowledge to create supportive, low-anxiety environments that promote natural language acquisition and facilitate deeper engagement with the target language. As SLA continues to inform language teaching, it allows for more personalized and effective instruction that better aligns with how learners process and internalize new linguistic structures.

In conclusion, SLA is not just a field of study concerned with how people learn languages, it is an interdisciplinary exploration of human cognition, behavior, and society. SLA research contributes to a more comprehensive understanding of how language is acquired, processed, and used by connecting psychology, sociology, philology, and linguistics. This broadens our knowledge not only of language itself but also of the cognitive and social mechanisms that drive learning. As the field continues to evolve, it will provide further insights into the complexities of language learning and offer valuable applications across academic and practical domains, ultimately fostering a deeper understanding of human communication and cultural exchange.

References:

- 1. Cassirer, E. A. (1945). Structuralism in modern linguistics. WORD, 1(2), 99-120. https://doi.org/10.1080/00437956.1945.11659249
- 2. Chomsky, N. (1957). *Syntactic structures*. Mouton.
 3. Chomsky, N. (1959). Review of "Verbal Behavior" by B. F. Skinner. *Language*, 35(1), 26–58.
- 4. Corder, S. P. (1967). The significance of learners' errors. International Review of Applied Linguistics in Language Teaching, 5, 161-170. http://dx.doi.org/10.1515/iral.1967.5.1-4.161
- 5. DeKeyser, R. (2017). Knowledge and skill in ISLA. In S. Loewen & M. Sato (Eds.), The Routledge handbook of instructed second language acquisition (pp. 15-32). Routledge.
 - Dörnyei, Z. (1990). Conceptualizing motivation in foreign-language learning. Language Learning, 40(1), 45–78.
 - 7. Dörnyei, Z., & Malderez, A. (1997). Group dynamics and foreign language teaching. System, 25(1), 65–81.
- 8. Ellis, N. C. (2015). Implicit and explicit language learning: Their dynamic interface and complexity. In P. Rebuschat (Ed.), Implicit and explicit learning of languages (pp. 3-24). John Benjamins.
- 9. Gass, S. M., & Mackey, A. (2007). Input, interaction, and output in second language acquisition. In B. VanPatten & J. Williams (Eds.), Theories in second language acquisition: An introduction (pp. 175–199). Lawrence Erlbaum.
 - 10. Krashen, S. D. (1982). Principles and practice in second language acquisition. Pergamon.
 - 11. Lado, R. (1957). Linguistics across cultures: Applied linguistics for language teachers. University of Michigan Press.
- 12. Long, M. H. (1981). Input, interaction, and second-language acquisition. Annals of the New York Academy of Sciences, 379(1), 259-278.
- 13. Lyster, R., & Ranta, L. (1997). Corrective feedback and learner uptake: Negotiation of form in communicative classrooms. Studies in Second Language Acquisition, 19(1), 37-66. https://doi.org/10.1017/S0272263197001034
- 14. Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, 63(2), 81–97. https://doi.org/10.1037/h0043158
- 15. Miller, G. A. (2003). The cognitive revolution: A historical perspective. Trends in Cognitive Sciences, 7(3), 141-144. https://doi. org/10.1016/S1364-6613(03)00029-9
 - 16. Pienemann, M. (1998). Language processing and second language development: Processability theory. John Benjamins.

- 17. Pienemann, M. (2005). *Cross-linguistic aspects of processability theory*. John Benjamins. 18. Pienemann, M., & Lenzing, A. (2025). *Processability theory*. Cambridge University Press.
- 19. Rebuschat, P. (Ed.). (2015). Implicit and explicit learning of languages. John Benjamins.
- 20. Rebuschat, P., & Williams, J. N. (2012). Implicit and explicit knowledge in second language acquisition. *Applied Psycholinguistics*, 33(4), 829–856. https://doi.org/10.1017/S0142716411000580

 - 21. Robinson, P. (1995). Attention, memory, and the "noticing" hypothesis. *Language Learning*, 45(2), 283–331. 22. Schmidt, R. W. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11(2), 129–158.
- 23. Schmidt, R. (2001). Attention. In P. Robinson (Ed.), Cognition and second language instruction (pp. 3-32). Cambridge University
- 24. Schmidt, R. (2012). Attention, awareness, and individual differences in language learning. Perspectives on Individual Characteristics and Foreign Language Education, 6(27), 27–49.
 25. Selinker, L. (1972). Interlanguage. International Review of Applied Linguistics in Language Teaching, 10(1–4), 209–241. https://
- doi.org/10.1515/iral.1972.10.1-4.209
- 26. Sharwood Smith, M. (1993). Input enhancement in instructed SLA: Theoretical bases. Studies in Second Language Acquisition, 15(2), 165–179. https://doi.org/10.1017/\$0272263100011943
 - 27. Skinner, B. F. (1957). Verbal behavior. Appleton-Century-Crofts.
- 28. Swain, M., & Lapkin, S. (1995). Problems in output and the cognitive processes they generate: A step towards second language learning. Applied Linguistics, 16(3), 371–391.
 - 29. Tarone, E. (1979). Interlanguage as chameleon. Language Learning, 29(1), 181–191.
 - 30. Truscott, J. (1998). Noticing in second language acquisition: A critical review. Second Language Research, 14(2), 103–135.
 - 31. VanPatten, B. (1996). Input processing and grammar instruction in second language acquisition. Greenwood Publishing Group.